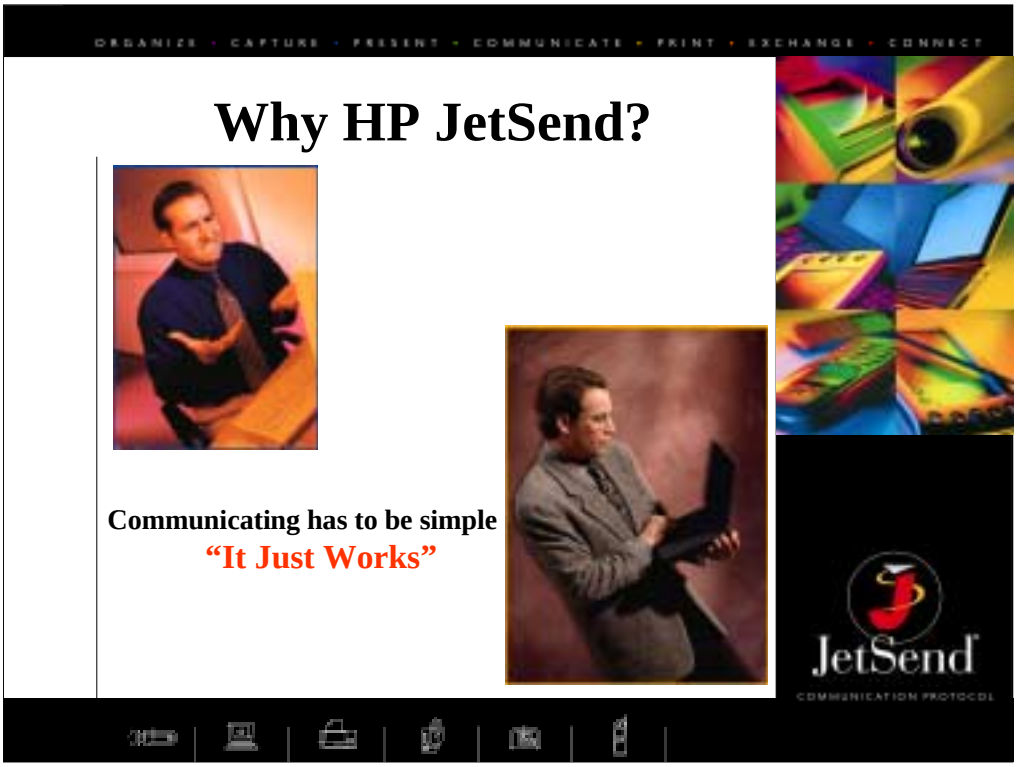

HEWLETT PACKARD
Expanding Possibilities
JetSend
It's that simple.
Getting Started Guide



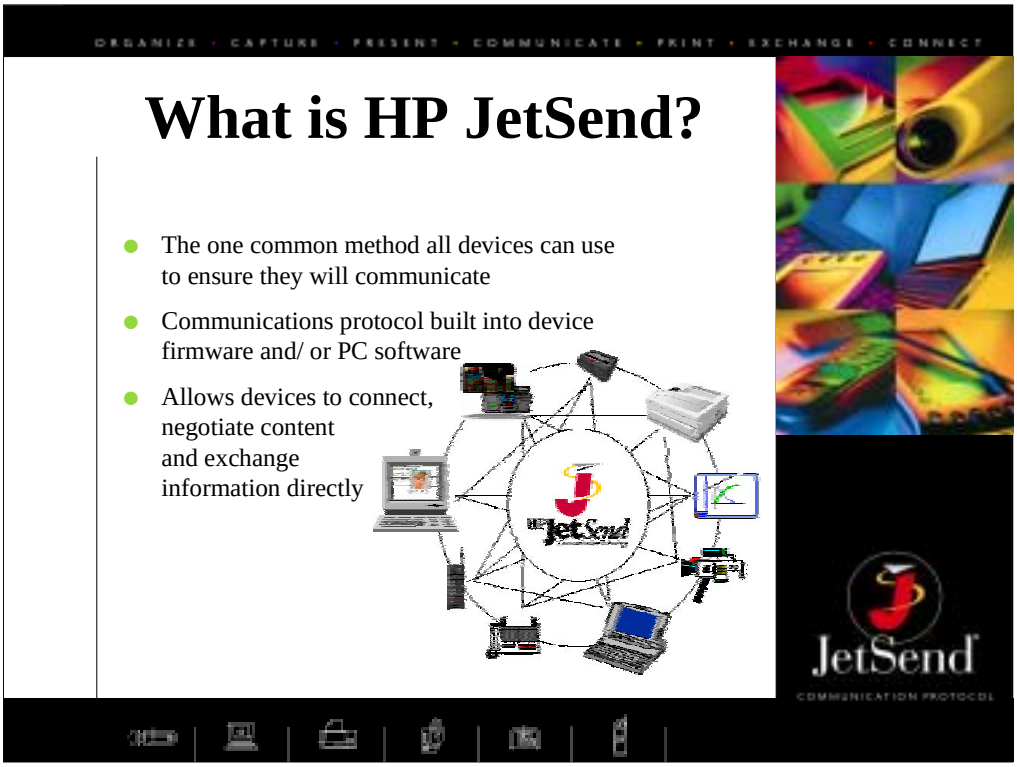
Why HP JetSend?

To fully understand HP JetSend and its benefits, you must first understand the basics of traditional communications along with some of the associated problems and frustrations.

Your communication appliances need to have the independence and flexibility to communicate in a variety of ways so you can send and receive text, graphics, voice or video immediately, using the transport of your choice. The interaction with different operating systems and applications should be seamless, with guaranteed results. However, you've probably experienced the frustrations of trying to accomplish this on a daily basis.

Today's communication rules require that your sending device, such as a PC, have a driver installed for each receiving device that it wants to communicate with. The driver allows the sending device to interact with and control the receiving device. As your need to communicate with an increasing number and variety of devices grows, driver installation and support problems can become more daunting and time-consuming.

So read on and see what HP JetSend is and how it can benefit you.



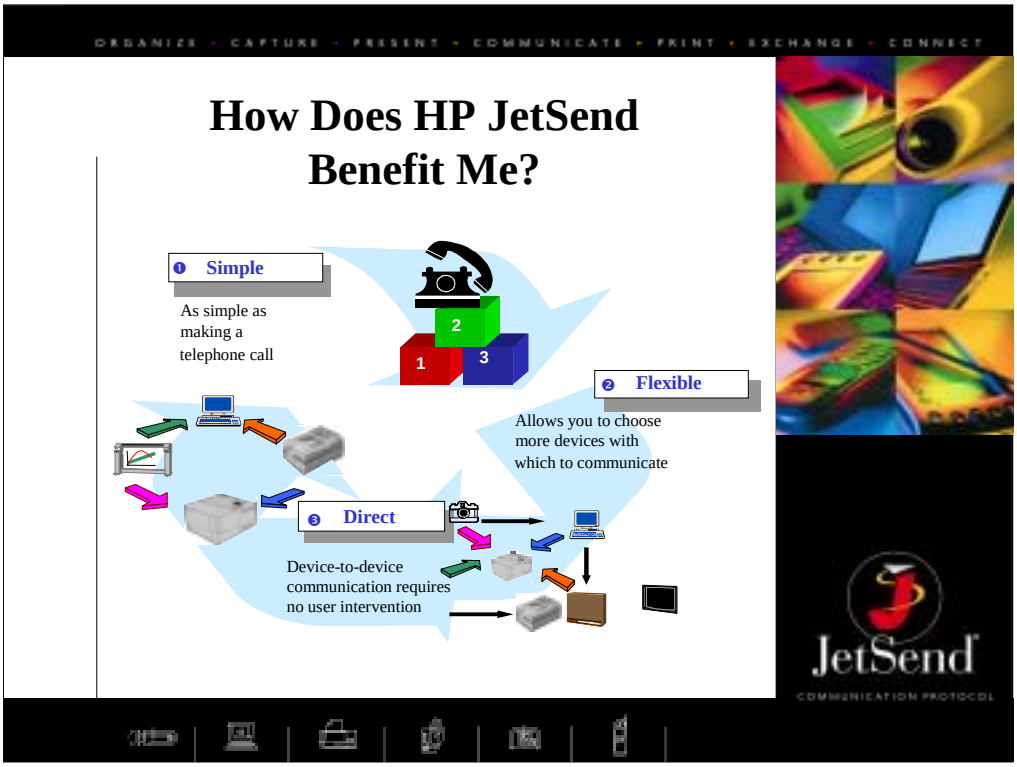
What is HP JetSend?

HP JetSend technology is software that enables devices to communicate in a simple, flexible and direct manner.

HP JetSend technology is designed to be operating system-independent, transport-independent, server-independent, application- independent, and can be built into any information appliance. It uses a singular driver to communicate with all JetSend-enabled appliances, and offers you guaranteed viewability.

HP JetSend treats all communicating appliances, such as your PC, scanner and printer, as equal citizens.

HP JetSend gives people a way of communicating without having to know anything about the other communicating device besides its address.

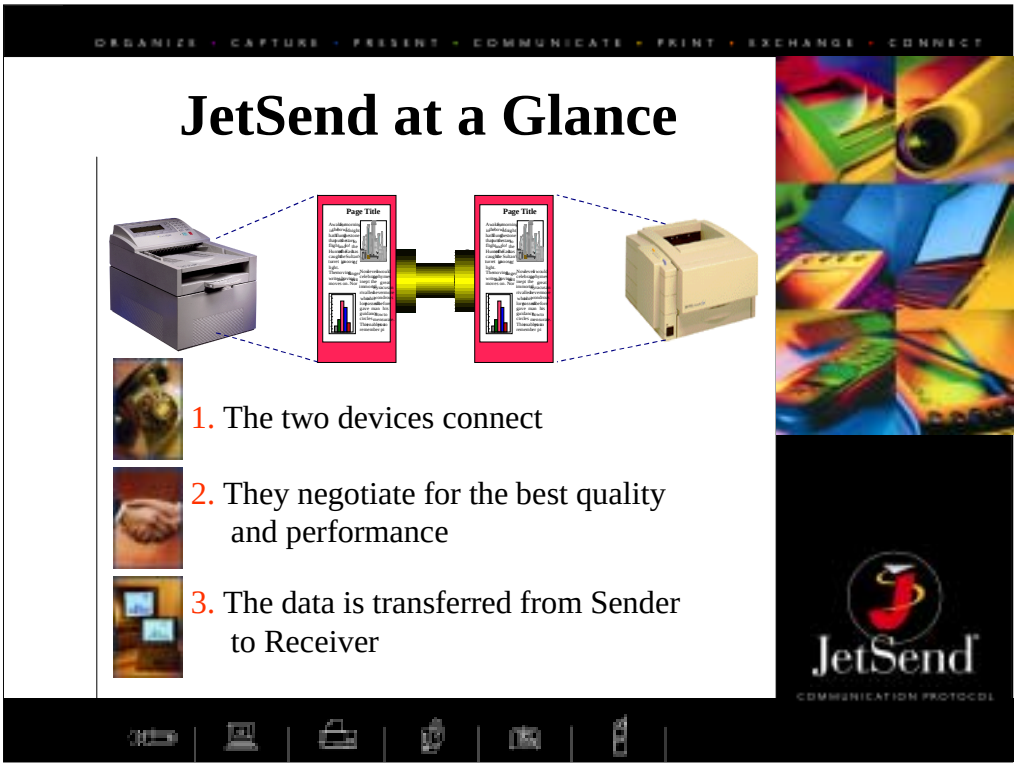


How does HP JetSend benefit me?

HP JetSend is the only available technology that can transcend the daily barriers of transport, server, application, operating system and driver dependence thereby increasing your ability to communicate with others at business speeds in a simple, flexible and direct manner using both HP and non-HP JetSend-enabled devices. As more and more JetSend-enabled devices such as cameras, PDAs, laptops, whiteboards, etc., become available your JetSend enabled communicating appliances continue to grow.

Today there are over 5 million HP and non-HP JetSend-enabled devices.

HP JetSend technology is based on an industry-accepted, open-standard format that can be easily built into your device's firmware or software to communicate over your existing communications infrastructure.



How does HP JetSend work? - At a glance

Communicating between JetSend devices is easy—just select the address of the device with which you wish to communicate. The negotiation between the two communicating devices and the job transfer occur automatically without user intervention, so you can focus on your task and not the tool.

In the example above, the sender contacts the receiver and offers the receiver its capabilities. The receiver negotiates for the highest capability to complete the job. Once this negotiation is done the receiver accepts the job from the sender.



How does HP JetSend work? - Basics

1. HP JetSend is based on the model that for two devices to communicate, they must be capable of understanding at least a few words in a chosen language. In this case the chosen language is JetSend and the few words are called mandatory encodings. To select greater capability in a device, base encodings are used, and to optimize a device's performance and quality, preferred encodings are chosen.

Just as in a book, words are used to form paragraphs and chapters. In JetSend, encodings are grouped to form planes and associations.

2. Once the other device's address has been entered and both devices have established contact, they negotiate for the highest level of encodings to ensure the best possible communications.



How does HP JetSend work? - Basics

After the contact is established between the two devices and the negotiation is complete, the job at hand is rendered into an electronic material representation (e-material) of that job, such as a page, and is called a surface. JetSend surfaces are software objects created on one appliance and consumed by another appliance. For example, think of a waiter offering a variety of surfaces like desserts on a tray. The receiver, in this case the diner, has to choose the one they want.

Several surfaces may be needed to represent one job fully. Such related surfaces are then linked together to form what are called parent and child surfaces.

3. At this point, after contact and negotiation have been completed, the e-material surfaces are transferred from the sender to the receiver over the transport that was chosen to establish contact.



How does HP JetSend work? - Basics

Architecture

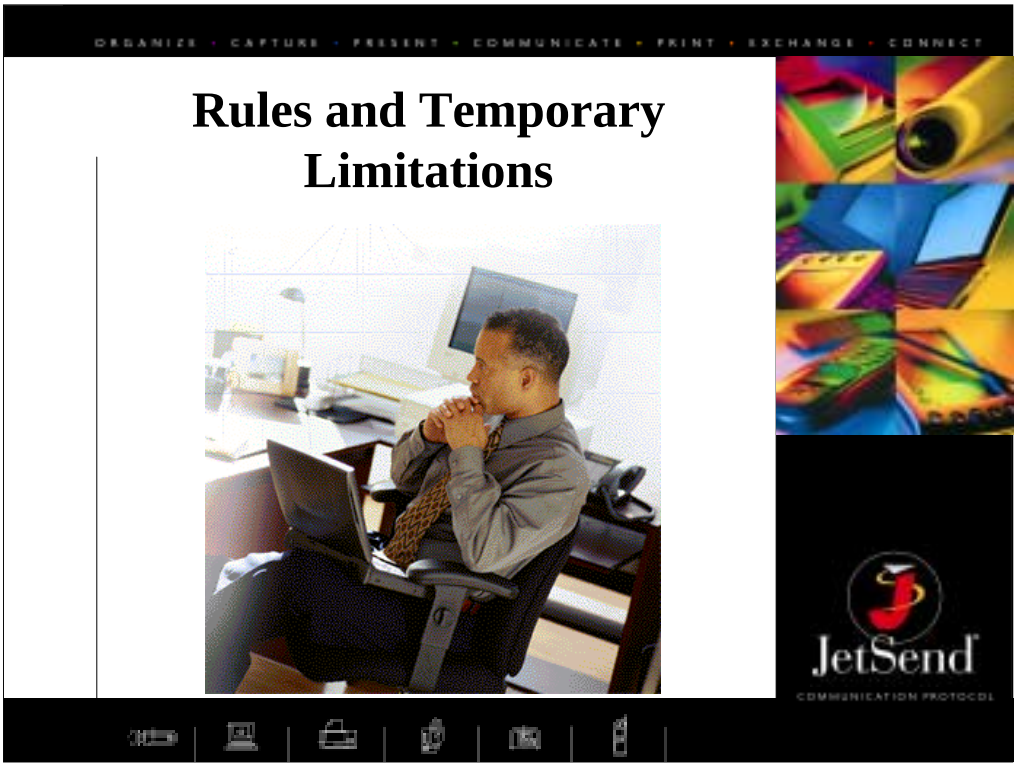
The JetSend architecture can be divided into three parts:

Device Code—This code contains device-specific information such as the device name, its address and its capabilities.

JetSend Core—The core consists of an e-material library which is used to encode information; the JetSend session protocol (JSP) which is used to open and close communication sessions; and the JetSend interaction policy which governs the use of these protocols.

There are four such policies: The Address Policy is used for communicating device addresses. The Self Policy is used to exchange contact information (like exchanging a business card). The Job Policy is used to send or receive jobs, and the Status policy is used to exchange Job pass/fail data.

Link Layer—This part contains all the functionality needed for transporting the information from the sending device to the receiving device.



How does HP JetSend work? - Basics

JetSend rules:

•The communicating devices must be able to address each other directly.

•No device-specific information should be preprogrammed into either communicating device.

•Devices negotiate encodings, namely a description of the job.

•The same protocol is used regardless of whether the devices are exchanging addresses, transferring data or control, or exchanging status.

Temporary limitations:

JetSend is growing in its implementation. Today it operates over TCP/IP on Windows 95, NT, 98 or 2000 and over Infrared on Windows 95, 98, and 2000 platforms, but is capable of operating on all transports and operating systems.

Currently JetSend has no store-and-forward capability, which means the device you are trying to communicate with must be turned on.



More about JetSend

Would you like to learn more about HP JetSend and how you can build it into your own products?

Visit our Web site at www.jetsend.hp.com